LISTING OF CLAIMS

Claim 1 (currently amended): A solid source method of growing a homoepitaxial SiC film within an MBE system having a growth chamber and effusion cells having shutters, comprising the steps of:

charging a first crucible with a quantity of Fullerenes;

installing said first crucible into a first effusion cell;

placing said first effusion cell into the growth chamber;

coating a second crucible with a layer of SiC;

charging said second crucible with a quantity of solid Si;

installing said second crucible into a second effusion cell;

placing said second effusion cell into the growth chamber;

providing a 6H-SiC substrate;

preparing said substrate by chemical-mechanical polishing;

loading said substrate into the growth chamber;

evacuating the growth chamber;

heating said substrate to a temperature of about 1500° C;

heating said first effusion cell to a temperature range of about 500° C to 650° C;

heating said second effusion cell to a temperature above about 1500° C; and,

growing a 6H-SiC homoepitaxial layer ~~of SiC~~ upon said substrate by controllably actuating the effusion cell shutters.

Claim 2 (canceled)

Claim 3 (canceled)

Claim 4 (canceled)

Claim 5 (canceled)

Claim 6 (currently amended): A solid source method of growing a homoepitaxial SiC film within an MBE system having a growth chamber and effusion cells having shutters, comprising the steps of:

charging a first crucible with a quantity of Fullerenes;

installing said first crucible into a first effusion cell;

placing said first effusion cell into the growth chamber;

coating a second crucible with a layer of SiC;

exposing said coated crucible to atmosphere;

repeating said coating step above;

charging said second crucible with a quantity of solid Si;

installing said second crucible into a second effusion cell;

placing said second effusion cell into the growth chamber;

providing a SiC substrate;

polishing said substrate;

cleaning said substrate with pressurized CO_2;

etching said substrate;

rinsing said substrate;

drying said substrate with pressurized N_2;

loading said substrate into the growth chamber;

evacuating the growth chamber;

heating said substrate to a temperature of about 1500° C;

heating said first effusion cell to a temperature range of about 500° to 650° C;

heating said second effusion cell to a temperature above about 1500° C; and,

growing a homoepitaxial layer of SiC upon said substrate by controllably actuating the effusion cell shutters.